

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SAWYER LAKE	Lake Area (ha):	31.77
Town: GILMANTON	Maximum depth (m):	4.5
County: Belknap	Mean depth (m):	3.0
River Basin: Merrimack	Volume (m <sup>3</sup> ):	953500
Latitude: 43°26'59" N	Relative depth:	0.7
Longitude: 71°24'18" W	Shore configuration:	1.35
Elevation (ft): 993	Areal water load (m/yr):	5.75
Shore length (m): 2700	Flushing rate (yr <sup>-1</sup> ):	1.90
Watershed area (ha): 378.2	P retention coeff.:	0.63
% watershed ponded: 0.0	Lake type:	natural w/dam

BIOLOGICAL:

		12 January 1993	29 June 1992
DOM. PHYTOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	ASTERIONELLA 45%
	#2		(NET PHYTOPLANKTON
	#3		VERY SPARSE)
PHYTOPLANKTON ABUNDANCE (cells/mL)			805
CHLOROPHYLL-A (µg/L)			1.99
DOM. ZOOPLANKTON (% TOTAL)	#1	SYNCHAETA 77%	CONOCHILUS 27%
	#2	KELLCOTTIA 19%	DAPHNIA 27%
	#3		
ROTIFERS/LITER		401	25
MICROCRUSTACEA/LITER		<1	35
ZOOPLANKTON ABUNDANCE (#/L)		401	60
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			3.5
BOTTOM DISSOLVED OXYGEN (mg/L)		11.1	7.2
BACTERIA (E. coli, #/100 ml)	#1		1
	#2		126
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>) : None  
Anoxic volume (m<sup>3</sup>) : None

**CHEMICAL:**

Lake: SAWYER LAKE

Town: GILMANTON

	12 January 1993		29 June 1992		
DEPTH (m)	1.0	3.0	1.0		3.0
pH (units)	6.2	6.2	6.8		6.6
A.N.C. (Alkalinity)	4.9	4.9	3.3		3.4
NITRATE NITROGEN	0.12	0.12	< 0.02		< 0.02
TOTAL KJELDAHL NITROGEN	0.16	0.25			
TOTAL PHOSPHORUS	0.015	0.015	0.010		0.007
CONDUCTIVITY ( $\mu$ mhos/cm)	54.3	57.0	51.3		50.5
APPARENT COLOR (cpu)	36	36	17		18
MAGNESIUM			0.74		
CALCIUM			2.5		
SODIUM			5.9		
POTASSIUM			0.56		
CHLORIDE	8	9	7		7
SULFATE	6	6	5		5
TN : TP	19	25			
CALCITE SATURATION INDEX			3.6		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1992**

D.O. S.D. PLANT CHL TOTAL CLASS

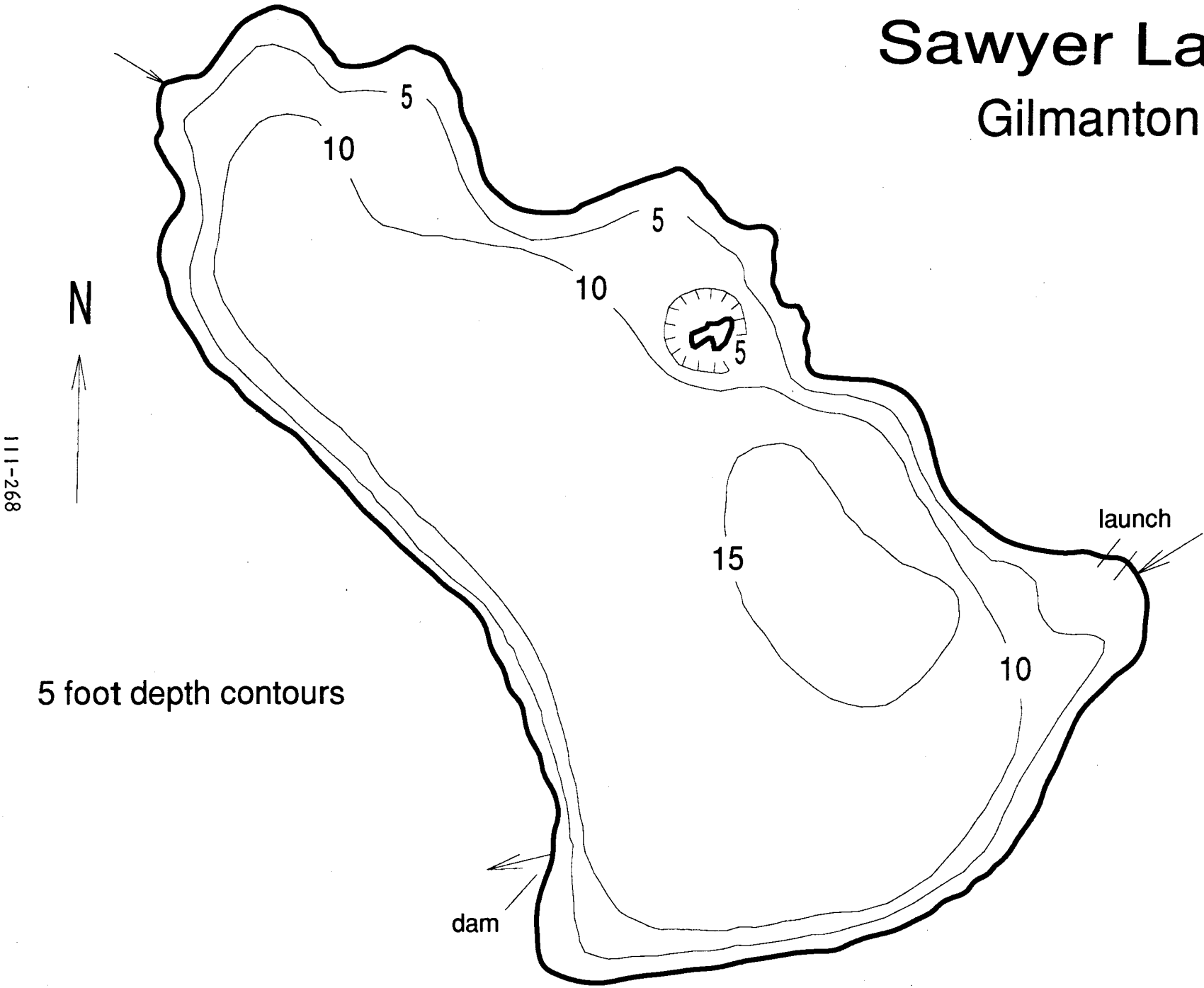
**	2	0	0	2	Oligo.
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**COMMENTS:**

1. Also known as Sawyer Reservoir.
2. Shoreline of lake was fully developed with cottages.
3. The lake had two beaches, and a boat launch site was present near the eastern inlet. Our understanding is that these belong to the private lake colony, and are not open to the general public.
4. This lake was previously surveyed and classified in 1977. There was no change in classification between the two years. The algae level was significantly less in 1992 -- in 1977 there was a small bloom of blue-green algae.

# Sawyer Lake

Gilmanton



# FIELD DATA SHEET

LAKE: SAWYER LAKE	TOWN: GILMANTON
DATE: 06/29/92	WEATHER: SUNNY, MILD AND BREEZY

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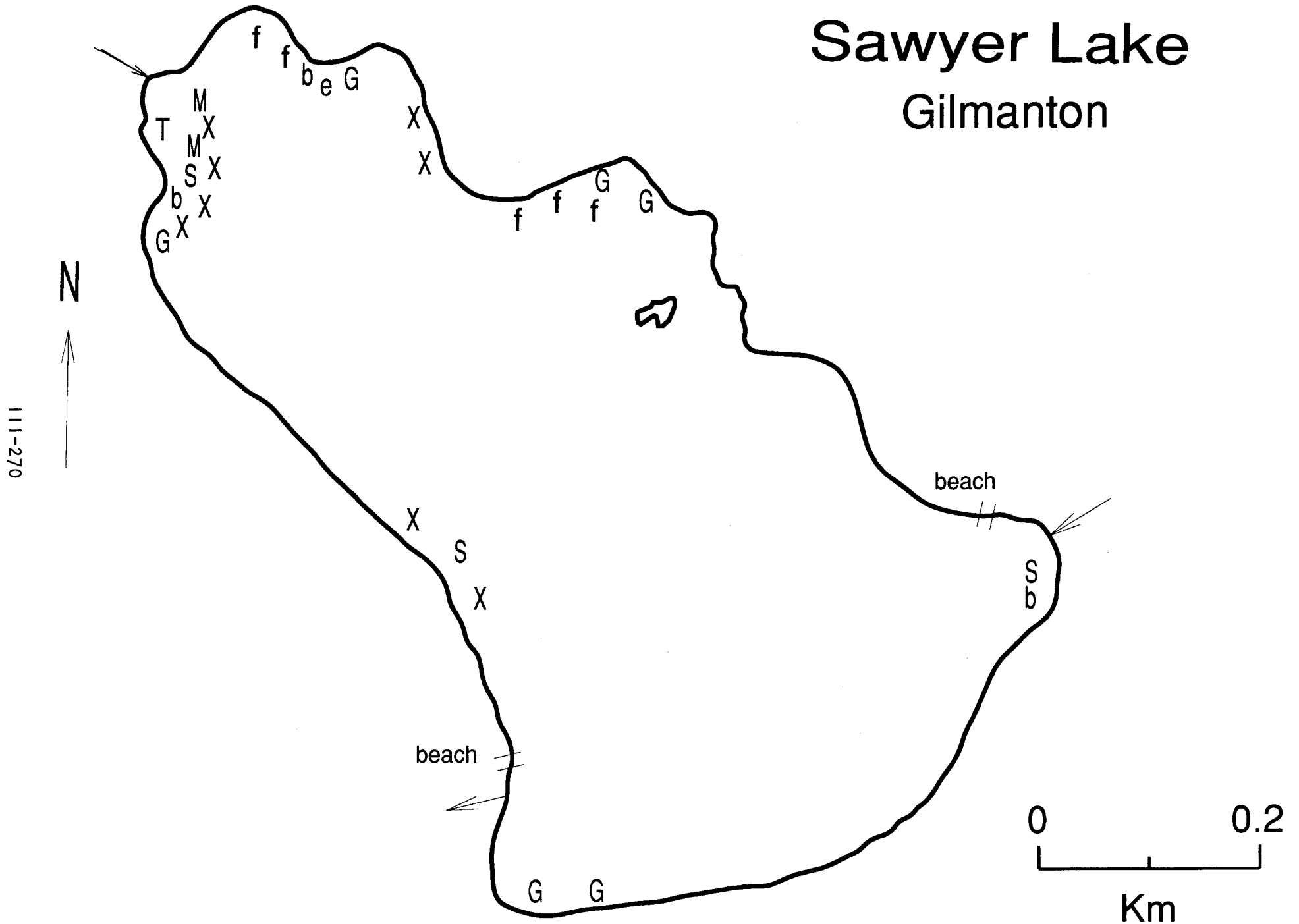
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BOTTOM DEPTH (m):	4.5	
TIME:	1230	
*Dissolved oxygen values are in mg/L		

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## Gilmanton



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